

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

TWO NEW CENTRAL AMERICAN SALAMANDERS.

BY EMMETT REID DUNN.

During the preparation of a general Revision of the Free-tongued Salamanders, now completed but the appearance of which will probably be delayed, I studied most of the material accumulated in the various American Museums. Besides this, I spent a summer in the field in Costa Rica. One of these new species, which it seems advisable to place on record now, was taken during that journey, the other I found in material loaned by the Field Museum of Chicago. For the opportunity to examine their interesting series of urodeles and to characterize this new form, I am deeply indebted to the authorities of that institution who have likewise consented to the retention of paratypes by the Museum of Comparative Zoology.

Oedipus rex, sp. nov.

Diagnosis.—A small *Oedipus* with toes scarcely webbed, inner not rudimentary, nostrils small in adult, teeth on maxilla, vomerine series of 9 teeth extending beyond nares, 3-4 costal folds between appressed toes.

Range.—Known from type locality only.

Description.—Field Museum No. 1814, adult male (type), Sierra Santa Elena (near Tecpam), Guatemala (alt. 9,500 feet). 12 costal grooves; 2 costal folds between appressed toes; head width $5\frac{1}{4}$ in length from snout to vent; head length $3\frac{2}{3}$ in length of body; head a blunt oval; eye longer than its distance from tip of snout; snout swollen; a tubercle below nostrils; outline of upper jaw slightly concave as seen from side; angle of jaw back of hind angle of eye; both eyelids fitting under a fold of skin behind; a groove from hind angle of eye to gular fold; a branch from this down behind angle of jaw and across throat. Limbs well developed; fingers 3, 2, 4, 1 in order of length, not much flattened, webbed at base; toes not much flattened, 3, 4, 2, 5, 1 in order of length, webbed at base and between 3 and 4 to next to last joint. Tail longer than head and body, constricted off at base, circular in cross section; anal lips lined with papillae.

Vomerine series not continuous with parasphenoids, about 9 teeth in series,

beginning outside of nares, curving in and back, separated from its fellow by a little more than width of the very small nares, and from parasphenoids by nearly their own length,—latter in two patches beginning at last third of eye sockets. Two premaxillary fangs.

Color.—Pinkish gray dorsally and on upper surfaces of limbs and tail, shading into gray in sides of body and tail, this somewhat marbled with white, beneath light gray, white marbling on throat, light marbling on upper surface of snout.

Total length 89, head 10, body 33, tail 46.

Variation.—A female, same data, differs in having 13 costal grooves and 3 costal folds between the appressed toes, head width 6 in distance from tip of snout to vent, snout less swollen, anal lips smooth, tail longer than head and body, 9 teeth in vomerine series which are separated from parasphenoids by half their length. Color darker, lightest on throat, darkest on mid-dorsal, but rather uniform gray all over.

Total length 90, head 10, body 34, tail 46. A small specimen is similar to the male but has nostrils with greater diameter than the largest specimen.

Total length 22, head 4, body 1.5, tail 7.5. Those described are the maximum and minimum sizes seen.

Habits.—The types were taken from under logs.

Remarks.—This form is not any of those hitherto described from Guatemala. Its nearest relations are with *sulcatus* from Mexico.

Specimens seen 11, all from type locality.

Oedipina alfaroi, sp. nov.

Diagnosis.—Similar to *Oedipina uniformis* in form, but no teeth on maxilla, head pointed instead of rounded, eye smaller; dark brown above, greyish below, instead of black above and below, as in the preceding species.

Range.—Known only from type locality.

Description.—Type M.C.Z. 6938, adult female, Zent, Costa Rica. 20 costal grooves; 14 costal folds between appressed toes; head width 12 in length from snout to vent; head length 7 in length of body; eye shorter than its distance from the nostril; head a pointed oval from above; snout not swollen; outline of upper jaw straight as seen from side; angle of jaw back of hind angle of eye; both eyelids fitting under a fold of skin behind; a groove from eye to gular fold; a groove from this down behind angle of jaw; limbs weak; fingers 3, 2, 4, 1 in order of length, united to tips; toes 3, 4, 2, 5, 1 in order of length, united to tip. Tail imperfect, not constricted at base, circular in crosssection; anal lips smooth.

Vomerine teeth about 9 in series, beginning behind outer edge of nares, curving in and back, separated from its fellow by width of the large nares, and from the parasphenoids by the same distance. Latter in a single patch beginning opposite anterior fourth of eye socket. No teeth on maxilla, one premaxillary tooth not piercing lip. Teeth on lower jaw confined to front half, normal in form and number. Color purplish brown above, light grayish below, a white spot behind insertion of leg.

Total length 104, head 7.5, body 53, tail 43.5.

Variation.—Another female, M.C.Z. 6944, same locality, has an uninjured tail which is much longer than head and body, head width 14 in length from snout to vent, head length $7\frac{2}{3}$ in length of body. The vomerines are separated from the parasphenoids by twice the width of the nares. There is one premaxillary tooth and none on the maxilla. The mandible is toothed to below the middle of the eye.

Total length 132, head 7, body 51, tail 74.

Habits.—Not dissimilar to those of *O. uniformis*. They may be found in the same log.

Remarks.—I have compared the original descriptions of *uniformis* and of *vermicularis* and they unquestionably refer to the same animal so that the present form is new. I had a third specimen but it wriggled from my hand and I could not find it again. They are easily distinguished from *uniformis* in the field by the different color.

Specimens seen 2, as follows: Costa Rica; Zent 2.

Named for Señor don Anastasio Alfaro of the Museo Nacional, San José, C. R., a slight recognition of his kind advice and hospitality and also in appreciation of his contributions to our knowledge of his country.

